Press release

Understanding climate change

18 April 2002

It is widely accepted that Britain's climate will change because of global warming, but by just how much is still open to question. Now new work being undertaken by UK scientists is helping the world's policy-makers to make more realistic plans for the future.

This week scientists Dr Peter Stott, from the Met Office's Hadley Centre for Climate Prediction and Research, and Jamie Kettleborough, from the Rutherford-Appleton Laboratory, have published a paper in Nature explaining how they are trying to solve this issue. Until now climate predictions have been so varied, making realistic long-term plans has proved difficult. But, for the first time, this new work puts the different possibilities into perspective.

Dr Stott explained "To find this out we have produced a range of possible climate forecasts which, unlike a single prediction, reflects uncertainties in how climate models represent such atmospheric processes as clouds."

The results of their work, funded by DEFRA, show that until the 2040s climate change doesn't depend strongly on the level of greenhouse gas emissions. However, later in the century large differences emerge. If we continue a high usage of fossil fuels the average global temperature could rise by between three and seven degrees celsius, by the end of this century.

With the aid of weather observations from the last 100 years the scientists have produced forecasts, giving different climate scenarios during the rest of the 21st century. By comparing simulations from the Hadley Centre climate model with the observations, they have estimated the factors by which the model can be scaled up or down, while remaining in agreement with the observations. These scaling factors have then been carried forward to quantify the uncertainty in predictions of future climate change.

Dr Stott said: "There is a pressing need to apply these probability predictions of global change at a regional level, where they are vital in planning measures to deal with the consequences of climate change, such as building bigger flood defences. This is the aim of the Probabilistic Predictions project at the Hadley Centre, which is funded by DEFRA."

For further information:
Met Office Press Office +44 (0)1392 886655

Met Office Customer Centre 0870 900 0100
If you're outside the UK +44 (0)1392 885680

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